Human Pathology: Case Reports (2014) 1, 2–5

ELSEVIER

Human PATHOLOGY Case Reports

www.humanpathologycasereports.com

Small intestinal tophus mimicking tumor

Pragya Katoch [a], Sara Trier-Mørch [b], Mogens Vyberg [a,*]

[a] *Institute of Pathology, Aalborg University Hospital, Aalborg, Denmark*
[b] *Department of Abdominal Surgery, Aalborg University Hospital, Aalborg, Denmark*

Received 16 April 2014; accepted 28 May 2014

Keywords:
Gout;
Intestinal tophus;
Monosodium urate crystals

Abstract A 72 year old male with hypertension, diabetes mellitus type 2 and previous gouty arthritis presented with weight loss, nausea, and vomiting. Ultrasound and CT scanning of the abdomen revealed a circumscribed tumor mass of the jejunum, 3.7 cm in diameter. Microscopic examination of the resected jejunum revealed the tumor to be a gouty tophus. To the best of our knowledge, three cases of tophi in the large intestine have previously been reported but none in the small intestine.

1. Introduction

Gout is a disorder of purine metabolism, reflected by elevated serum uric acid levels eventually leading to deposition of monosodium urate monohydrate (MSU) crystals, most commonly in the joints, kidneys, and soft tissues [1]. The typical course of disease involves progression through periods of asymptomatic hyperuricemia, followed by periods of acute attacks, an interval phase, and subsequent development of chronic arthropathy and tophi. Tophi are nodules of MSU deposits usually located within and around the finger or toe joints, over the olecranon process, in the helix of the ears, around the knees, and within the prepatellar bursae [1]. However, tophi have also been described in many atypical locations, like heart valves, vocal cords, breast, colon, eyes and spinal cord [1,2].

We report on a case of a 72-year old man with a tumor mimicking MSU tophus in the wall of jejunum, a localization which is hitherto undescribed.

2. Clinical history

2.1. Past history

The patient had had hypertension for the last 25 years initially treated with enalapril, thiazides, amlodipine, and bisoprolol, currently with metoprolol and amlodipine.

In 2001, high levels of serum uric acid at 0.61 mmol/l (normal 0.23–0.48 mmol/l) were first documented. Since then, the patient had 3 episodes of acute gouty arthritis in the big toe (2002–05) and was started on allopurinol treatment in 2002, currently receiving 300 mg daily. His uric acid levels have been normal since 2006 (last documented in 2010).

In 2003, the patient was diagnosed with diabetes mellitus type 2 and started on metformin to which was later added gliclazide. In the same year, he had a transient ischemic attack. Computed tomography (CT) of cerebrum showed multiple old but small infarcts. He was started on dipyridamol and low dose aspirin. In 2007, simvastatin was prescribed due to hyperlipidemia.

2.2. Present

In February 2013, the patient was admitted to hospital with gait ataxia, headache, nausea, and vomiting. There

* Corresponding author.
E-mail address: mv@rn.dk (M. Vyberg).

http://dx.doi.org/10.1016/j.ehpc.2014.05.001
2214-3300/

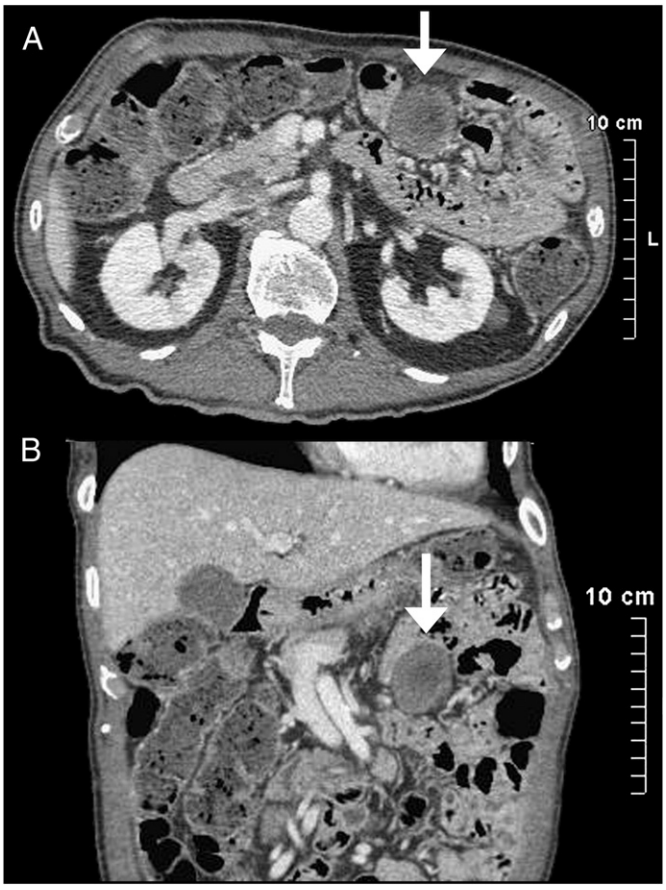

Fig. 1 CT scanning of abdomen (A, horizontal; B, sagittal) showing a well circumscribed tumor mass related to the mesentery of the small intestine (arrows) with central hypodensity.

was a 10 kg weight loss during two months prior to admission. Patient had been catheterized a few days before admission, due to urine retention.

A general physical examination revealed an enlarged prostate and a raised serum prostate specific antigen. CT scanning of cerebrum did not show any new infarcts.

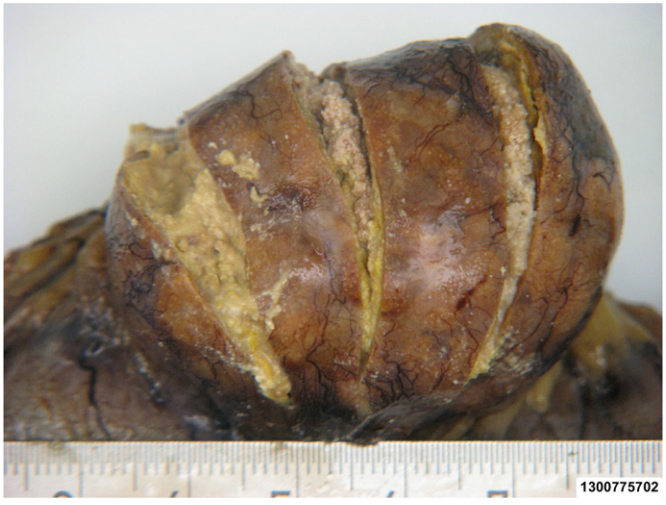

Fig. 2 Macroscopic photo of the resection specimen. The cut surface of the subserosal tumor mass showing a sticky yellowish material.

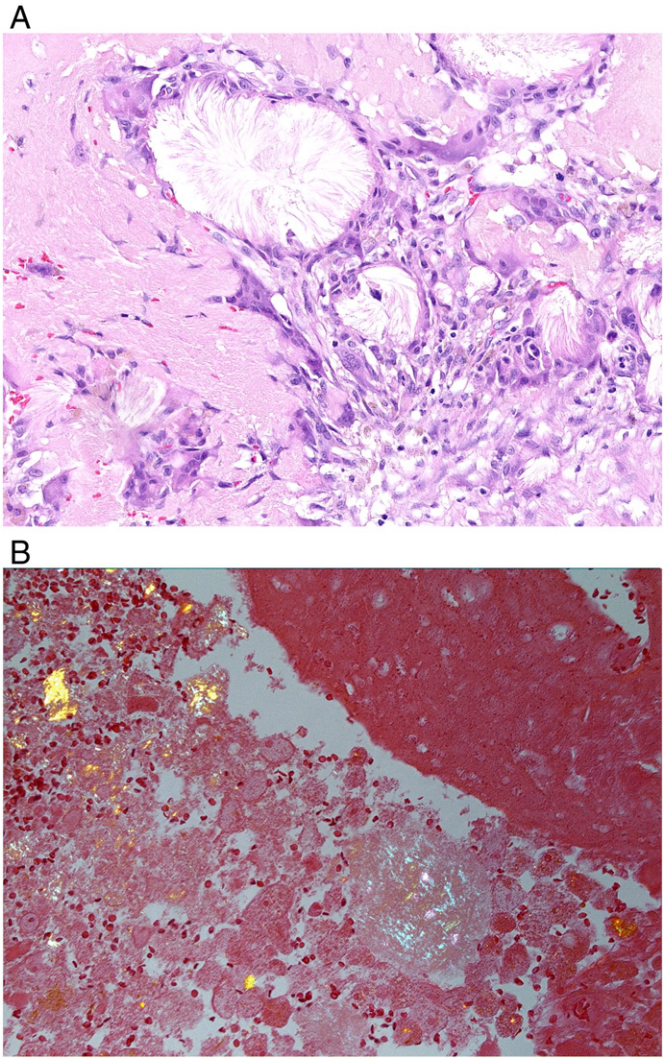

Fig. 3 A: Microscopy showing needle shaped MSU crystals in the subserosa surrounded by a dense histiocytic infiltrate with giant-cells (hematoxylin eosin, × 100). B: Under polarizing light microscopy, the crystals demonstrate negative birefringence (eosin–absolute alcohol stain [5]).

Ultrasound and CT scanning of the abdomen revealed a 3.3 × 3.7 cm circumscribed tumor mass related to the mesentery of the small intestine (Fig. 1), many enlarged retroperitoneal lymph nodes and an enlarged prostate.

An exploratory laparotomy was subsequently performed, identifying a tumor in the wall of jejunum, 1 cm from the Treitz' ligament. The jejunum was resected together with one enlarged retroperitoneal lymph node.

3. Pathological findings

The resection specimen consisted of a 17 cm long jejunum with a subserosal tumor process measuring 50 × 29 × 25 mm (Fig. 2). The cut surface showed a partly cystic lesion containing a sticky yellowish-white material. The cyst wall was smooth, approximately 3 mm thick.

Microscopically, the cyst wall was composed of fibrous tissue infiltrated by histiocytes and giant cells of foreign body type surrounding numerous needle-shaped deposits (Fig. 3A). The cyst content was consisting of needle-shaped crystals, histiocytes, and cellular debris. Under polarizing light microscopy these crystals demonstrated negative birefringence consistent with MSU deposition (Fig. 3B). The lymph node revealed a metastatic adenocarcinoma consistent with origin in prostate.

4. Discussion

Tophaceous deposits of MSU typically occur after many years of recurrent gouty arthritis, although cases with tophi as the first symptom have also been reported [4]. Gout can act as a "great mimicker," and deposits in unusual sites have frequently been documented. These lesions can simulate tumors, abscesses,

heart valve defects and cutaneous calcinosis [2,3]. To the best of our knowledge, three cases of tophi have been reported in the large intestine [6–8] but none in the small intestine.

Our patient had hypertension and diabetes type 2, which are frequent comorbidities associated with gout [1,5]. When starting allopurinol treatment, the patient also received thiazide and low dose aspirin treatment; both drugs are suspected of causing uric acid retention [1,9]. The patient had documented elevated serum uric acid levels during 5 years, along with acute attacks of gout. Hence, accumulation of MSU in the small intestinal wall over a long period of time can be explained.

References

[1] Richette P, Bardin T. Gout. Lancet 2010;375(9711):318-28.
[2] Forbess LJ, Fields TR. The broad spectrum of urate crystal deposition: unusual presentations of gouty tophi. Semin Arthritis Rheum 2012;42(2):146-54.
[3] Ning TC, Keenan RT. Unusual clinical presentations of gout. Curr Opin Rheumatol 2010;22(2):181-7.
[4] Iglesias A, Londono JC, Saaibi DL, Pena M, Lizarazo H, Gonzalez EB. Gout nodulosis: widespread subcutaneous deposits without gout. Arthritis Care Res 1996;9(1):74-7.
[5] Shidham V, Shidham G. Staining method to demonstrate urate crystals in formalin-fixed, paraffin-embedded tissue sections. Arch Pathol Lab Med 2000;124(5):774-6.
[6] Wu H, Klein MJ, Stahl RE, Sanchez MA. Intestinal pseudotumorous gouty nodulosis: a colonic tophus without manifestation of gouty arthritis. Hum Pathol 2004;35(7):897-9.
[7] Härle P, Schlottmann K, Ehrenstein BP, Fleck M, Glück T, Herold T, et al. A patient with arthritis, severe back pain, impaired wound healing, and perforated sigmoid colon. Lancet 2006;367(9527):2032.
[8] Chen CH, Chen CK, Yeh LR, Pan HB, Yang CF. Intra-abdominal gout mimicking pelvic abscess. Skeletal Radiol 2005;34(4):229-33 [Epub 2004 Nov 20].
[9] Stamp LK, Chapman PT. Gout and its comorbidities: implications for therapy. Rheumatology (Oxford). Rheumatology (Oxford) 2013;52 (1):34-44.